

CLAIM 96. A wireless digital personal communications system, said system having a plurality of predetermined areas of radio cell coverage, said system having incoming and outgoing calling capability for either voice/data/image information, or any combination thereof, said system having an ISDN interface which allows for the interconnection and switching of wireless traffic through a switched network and for connecting at least one radio cell with a switched network, said system having a service control point data base using transaction application protocols, said system having intercell hand-off provided through distributed logic that is resident in the fixed terminals, distributed logic that is resident in the radio cell base stations, and distributed logic that is resident at predetermined locations in the switched network, said system comprising in combination:

A
cont.
A

a plurality of radio cell base station means, each radio cell base station means having a predetermined radio cell coverage area, each radio cell base station means having means for receiving and transmitting signal messages and a plurality of communications messages, each radio cell base station means including:

means for digital communications with the ISDN interface;

means for assigning a communications channel to a specific fixed terminal means in the coverage area from a plurality of available communications channels;

means for registration of a fixed terminal means within a radio cell coverage area for incoming or outgoing calling on the assigned communications channel; and

means for effectuating communications between each fixed terminal means in said radio cell coverage area and a switched network means;

a plurality of fixed terminal means, each fixed terminal means operatively disposed with said radio cell base station means, each fixed terminal means having means for receiving and transmitting signal messages and a plurality of communications messages, each fixed terminal means including:

means for initially selecting a radio cell base station means for registration of the fixed terminal means with a switched network means;

means for selecting a communications channel of an operatively disposed radio cell base station means by scanning the available channels, comparing the quality of the signals, and then selecting the communications channel based upon said comparison; and

means for seeking and determining an intercell hand-off from an existing radio cell base station means to a second radio cell base station means;

at least one switched network means, each switched network means operatively disposed with said radio cell base station means, each switched network means including:

means for connecting the digital network to each of the radio cell base station means to the switched network means;

means for effectuating intercell hand-off from a first radio cell coverage area to a second radio cell coverage area;

A,
Cont.

means for converting a first predetermined digital network protocol to a second protocol for interconnection to a service control point data base means; and

means for determining and accepting calls to and from a plurality of switched networks means; and

a service control point data base means including:

means for registration of the fixed terminal means with a specific radio cell coverage area,

whereby the personal communications system facilitates interconnection and switching of wireless call traffic through the ISDN interface and the public switched telephone network, or any switched network.

A,
cont.

CLAIM 97. The wireless digital personal communications system of Claim 96 where the means for converting the first predetermined digital network protocol to a second protocol, said second protocol is a transaction application protocol.

CLAIM 98. The wireless digital personal communications system of Claim 97 where said transaction application protocol is the Advanced Intelligent Network (AIN) protocol.

CLAIM 99. The wireless digital personal communications system of Claim 97 where said transaction application protocol is the X.25 protocol.